

CLAIMS

1. A method for the early detection and/or quantification of CNS damage in an individual, said CNS damage being caused by space-occupying lesions of the CNS, by invasion or metastasis of the CNS, by organisms, by anoxia or ischemia, by chemical agents, by physical agents or by a combination of these mechanisms, said method comprising the step of determining the level of tau in said individual and comparing it to the level of tau in control healthy individuals.
2. A method for the early in vitro detection and/or quantification of CNS damage in an individual, said CNS damage being caused by space-occupying lesions of the CNS, by invasion or metastasis of the CNS, by organisms, by anoxia or ischemia, by chemical agents, by physical agents or by a combination of these mechanisms, said method comprising the steps of:
- obtaining a sample from said individual;
 - determining the level of tau in said sample and comparing it to the level of tau in control healthy individuals.
3. A method according to claim 2 in which the sample is taken from the cerebrospinal fluid of the individual.
4. A method according to claim 2 in which the sample is taken from the blood derivatives of the individual.
5. A method according to any of claims 1 to 4 in which the space-occupying lesion of the CNS is a primary brain tumor, benign or malignant, brain metastasis, or a subdural haematoma.
6. A method according to any of claims 1 to 4 in which the invasion or metastasis of the CNS is by leukemia, lymphoma or breast cancer.
7. A method according to any of claims 1 to 4 in which the organisms are bacteria or viruses causing encephalitis or meningitis.

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8. A method according to any of claims 1 to 4 in which the anoxia or ischemia is caused by stroke, by cerebral infarction, by cerebral hemorrhage, by thrombosis, by perinatal asphyxia, by Binswanger disease or by vasculitis.

5 9. A method according to any of claims 1 to 4 in which the chemical agent is.

10. A method according to any of claims 1 to 4 in which the physical agent is a trauma, stroke, intracranial pressure or radiation.

10 11. A method according to any of claims 1 to 10 in which CNS damage is detected and/or quantified in order to evaluate the effect of a certain treatment on said CNS damage.

12. The use of tau as an aspecific marker for the manufacture of a diagnostic kit for the early detection and/or quantification in an individual of CNS damage caused by space-occupying lesions of the CNS, by invasion or metastasis of the CNS, by organisms, by anoxia or ischemia, by chemical agents, by physical agents, or by a combination of these mechanisms.

13. The use of tau as an aspecific marker according to claim 12 in any method according to claims 1 to 11.

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sub B3 14. A kit for the early diagnosis of CNS damage in an individual, said CNS damage being caused by space-occupying lesions of the CNS, by invasion of the CNS, by organisms, by anoxia or ischemia, by chemical agents, by physical agents, or by a combination of these mechanisms, comprising a tool for the detection of tau.

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sub A7 15. A kit according to claim 14 for use in any method according to claims 1 to 11.

16. A kit according to claims 13 and/or 14 characterised in that said kit comprises:

- a monoclonal antibody (primary antibody) which forms an immunological complex with an epitope of tau;
- a secondary antibody

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- which can be a monoclonal antibody recognising an epitope of the tau-primary antibody complex, but not recognising the primary antibody alone, or
 - which can be a polyclonal antibody recognising an epitope of the tau-primary antibody complex but not recognising the primary antibody alone, with said polyclonal antibody being preferably purified by immunoaffinity chromatography using immobilized tau or immobilized tau-primary antibody complex;
 - a marker either for specific tagging or coupling with said secondary antibody;
 - appropriate buffer solutions for carrying out the immunological reaction between the primary antibody and the test sample, between the secondary antibody and the tau-primary antibody complex and/or between the secondary antibody and the marker;
 - possibly, for standardisation purposes, a purified protein or a synthetic peptide containing one or more tau epitopes.
17. A method to screen or monitor the effect of compounds which prevent or treat CNS damage comprising the step of determining the level of tau and comparing it to the level of tau in a control sample.